

**METHODS FOR PHYSIOLOGICAL MONITORING,  
TRAINING, EXERCISE AND REGULATION**

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**ABSTRACT**

Computer executable software and device for guiding brain activity training comprising: logic which takes data corresponding to activity measurements of one or more internal voxels of a brain and determines one or more members of the group consisting of: a) what next stimulus to communicate to the subject, b) what next behavior to instruct the subject to perform, c) when a subject is to be exposed to a next stimulus, d) when the subject is to perform a next behavior, e) one or more activity metrics computed from the measured activity, f) a spatial pattern computed from the measured activity, g) a location of a region of interest computed from the measured activity, h) performance targets that a subject is to achieve computed from the measured activity, i) a performance measure of a subject's success computed from the measured activity, j) a subject's position relative to an activity measurement instrument; and logic for communicating information based on the determinations to the subject in substantially real time relative to when the activity is measured.